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ABSTRACT

A discussion of accelerated learning in language instruction gives a sample lesson, discusses the methodology used, and summarizes the results of a language teacher training program using the method. The approach is based on recognition and development of brain hemisphere functions to make learning faster and more effective. The sample lesson is a demonstration of basic lesson segments, including relaxation, a movement exercise with teacher commands, an exercise in choosing names, an imaginary party, and readings accompanied by music. The discussion of the method outlines its theory and its sources in left and right brain theory and related learning techniques. The language teacher training program described used the teaching to teach both an unfamiliar "shock" language and a more familiar language to the trainees and then provided instruction in the classroom use of the method. The cognitive gains produced by the method were significant, with the largest gains made in learning the "shock" language. Trainee responses to the method were also favorable. Five tables are included. (MSE)

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A CENTER FOR ACCELERATED LEARNING: A TRAINING PROGRAM FOR ELEMENTARY AND SECONDARY FOREIGN LANGUAGE TEACHERS

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A CENTER FOR ACCELERATED LEARNING: A TRAINING PROGRAM FOR ELEMENTARY AND SECONDARY FOREIGN LANGUAGE TEACHERS

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Abstract

In September, 1985, A Center for Accelerated Learning was established and funded by a Federal grant to train elementary and secondary foreign language teachers in the newest techniques in Accelerated Learning based on left/right brain theories. Approximately 100 ESL and foreign language teachers from a five-parish area in Louisiana completed the training courses and are using techniques learnied at the Center in public, private and Catholic schools throughout the state.

This paper, written in three parts, will describe a sample lesson, discuss the methodology used and explain the results of the evaluation of the foreign language courses used within the training courses.

PART I:

THE DEMONSTRATION

by

Judy Held, Ph.D.

Accelerated Learning is a new way of looking at foreign language teaching in that it seeks to provide a holistic or "whole-brain" approach intended for the complete individual and is our model for learning. It has evolved from investigation on how students learn best and how we as teachers can best facilitate the learning process. As teachers, we do not teach but we do set up learning situations in which students are able to learn. Thus, we become communicators and facilitators of learning.

Before the demonstration begins it must be noted that the physical arrangement of the room is of great importance. The student must be greeted by a pleasant place where color is represented by posters, pictures and realia. The lighting must be ample and there should be music playing in the background. Usually students' chairs are placed in a semi-circular arrangement on a carpeted floor. The invitation is offered indirectly to join with us to see what will happen. This is not the usual classroom.

During the class, students will be asked to change chairs which creates a kind of flexible seating arrangement. They will also be asked not to sit in the same seat twice, if possible. This kind of fluid arrangement helps facilitate the visual experience so that each student will be able to see, at least once, all of the material presented around him or her.

In the demonstration that follows, the audience will participate with me to experience, briefly, some of the elements of an Accelerated Learning class. We will begin with a relaxation exercise designed not only to relax the body but to remove stress that might have been created by the classroom situation. The participants will be asked to remember, in detail, a pleasant learning experience from the past. This exercise, although brief, sets the tone for the entire presentation.

Next, we will use a movement exercise to help the body become ready to learn. The participants will stand and be asked to visualize a "money tree" before them. They will then pick dollars from the "tree". This is a stretching exercise which also helps us to activate the creative side in all of us. It also helps to see the world in a new way.

The movement segment continues as I begin to employ Total Physical Response (developed by James Asher) to teach the participants some of the simple commands in the target foreign language. I will give several commands in the foreign language and at the same time I will do what I say. The audience will do as I command. I then stop doing what I command while the audience continues to do as I say. By now, with numerous repetitions the commands are recognized and the sounds familiar. Students need not produce speech at the time. We intend to have them understand, only.

Some of the participants will join with me in choosing a new name, at this point in the demonstration. It is now that the students are invited to begin the adventure of discovery in the new language. We all learn when we are relaxed and especially when we are at play. By assuming a new name and a new personality we can provide the basis for imaginative development and set the groundwork for new vocabulary and grammar structures. The names in the target language found on a large poster also present the first sounds of the new language to the participants in an easy, relaxed manner. All of the target language sounds are represented by the name lists and students learn the alphabet without being told directly that this is the specific activity of the day.

The climax of the opportunity for a new life is a "cocktail party" with imaginary drinks and happy music. Students have the chance to meet each other using vocabulary in the target language for the first time in very brief "party" style. In this exchange of playful interaction students establish rapport which is the first step in a progression of positive group interactions to come.

The demonstration ends with an example of the Accelerated learning "Concert", two special readings of the material used as text. The first reading is guided by the music used in the background. Participants follow along understanding

as they read with me. The reading also permits students to glance at the prepared translation and at brief grammar and cultural explanations sprinkled in the materials.

A second reading follows in which I read in a normal, idiomatic tone, guided not by the music by by the textual and semantic content of the material. Participants are invited to relax and experience the flow of words and music, visualizing the events and ideas the teacher reads about.

It is interesting to note that the text materials are presented in the form of a play with specific dialog. This written form lends itself well to roll-playing, chorus reading and a variety of other activities which support and reinforce the vocabulary, grammar and ideas presented before the students.

The demonstration comes to an end but we ask you to be aware of the "FIRM" principle upon which Accelerated Learning finds its basis: it relies on FUN, IMAGINATION, and RELAXATION, all with a background of MUSIC.

PART II:

THE THEORY AND SOURCES OF THE METHOD

by

Bonnie Keller, Ph.D.

Accelerated Learning

While scientists estimate that an average person uses only about 10% of possible brain capacity, alternative learning systems are now being developed that intregrate left and right brain functions. Suggestopedia created by Dr.Georgi Lozanov in Bulgaria, Total Physical Response(TPR) as developed by Dr. James J. Asher, and Acquisition Through Creative Teaching (The ACT Approach), a westernized set of techniques used by Dr. Lynn Dhority and other members of the Society for Accelerative Learning and Teaching(SALT), are three separate attempts to use holistic methods to utilize the as-yet-untapped potential capacity of the brain. They share several features, especially reliance on a stress-free environment which permits access of both the left and right brain hemispheres for accelerated learning of the target language.

These techniques complement more traditional teaching methods while at the same time increasing the students' motivation and ability to learn the target language. Above all, a positive learning environment with relaxed students experiencing the "joy of learning," is created thus building confidence and the potential for real success in the classroom.

Scientific research as to how we think suggests that the left brain hemisphere has to do with logical, rational thought, and is capable of producing language, while the right brain hemisphere involves such things as intuition, creativity, and imagination. As Linda Verlee Williams states in Teaching for the Two-Sided Mind, "We possess 2 different and complementary ways of processing information--a linear, step -by-step style that analyzes the parts that make up a pattern (in the left hemisphere) and a spatial, relational style that seeks and constructs patterns (in the right)."[1].

Traditionally, education has been directed toward the left brain functions and has not paid much attention to the right hemisphere, particularly after the first few years of a child's education. Teachers like myself who frequently brought realia into the classroom did not get a lot of support. I always had nagging doubts that perhaps I should just go ahead and do those 35 irregular verbs in the past subjunctive that put me to sleep and which I was sure students would never use. But now, science is proving that our "intuition" was right, that working with real objects in the here and now is an excellent way to teach all kinds of students.

The latest information on split brain learning theory, such as Tony Buzan's book, Use Both Sides of Your Brain, describes several "great brains" such as Einstein who would appear to be left brain dominant or artists such as Picasso or Cezanne who would be right brain dominant. Upon closer examination of their lives and work, they in fact appear to been exceptionally well balanced in their abilities. That is, Einstein failed math in school while journals of the artists read like a chemist's description of how to mix the paint or an engineer's analysis of where to put the lines and spirals for optimal effect. Buzan gives Leonardo Da Vinci as "a supreme example of what a single human can do if both sides of the brain are developed simultaneously."[2].

Another excellent source is the article by Dr. Jerre Levy, "Right Brain, Left Brain: Fact and Fiction,"[3]. suggests that although one or the other hemisphere may dominate in a particular individual, both sides work together in a complimentary fashion. Dr. Levy, an associate of Dr. Roger Sperry who won the 1981 Nobel Prize for his work with split-brain patients, is one of the nation's experts on brain lateralization studies. Indeed, science is very close to telling us exactly how students learn. And as more is discovered about the brain, it is becoming clear that successful teaching relies on providing stimuli for the total person, in integrating the brain hemispheres.

Let's look at three systems that do that. First of all, Suggestopedia developed by Dr. Georgi Lozanov of Bulgaria in the 1960's at the Institute of Suggestology and Parapsychology.

Suggestopedia is the educational branch of suggestology which documents the use of positive suggestion. Suggestopedia incorporates many techniques such as the use of baroque music, breath control from Yoga, and very specific rhythms to help people reach the usually untapped reserves of mind and body. Suggestology attempts to get the body and left-brain and right-brain abilities working together as an orchestrated whole to make people more capable of doing whatever they wishto do. The principle elements of the system co-ordinate the conscious and unconscious mind and greatly facilitate learning.

An expert in the field, Dr. W. Jane Bancroft, who teaches at the University of Toronto, is to a great extent responsible for the early dissemination of the Lozanov method in the western world. While touring the Institute in Sofia, she was accidently allowed to observe and record model language classes with a group of Russian visitors and realized that the demonstration she had seen earlier with other westerners was not the same as she witnessed with the Russians. She has also described other sources related to Suggestopedia such as Dr. Caycedo's development of Sophrology[4]. in Barcelona which is a somewhat similar system derived from zen. However, it does not use music. Or the system of Dr. Tomatis who worked with dyslexics in France in the 1950's and who developed L' oreille electronique which was a way of controlling the frequencies heard by the students and adjusting them so that the target language was heard correctly.

A second major methodology that depends on whole-brain learning is

Total Physical Response (TPR) as developed by Dr. James J. Asher, of San Jose State University. His system is based on three key ideas:

1-That understanding the spoken language should be developed in advance of speaking.

2-That understanding should be developed through movements of the student s body. The imperative form of the verb is a powerful aid because the instructor can utter commands to manipulate student behavior. And thus present most of the grammatical structures as well as hundreds of vocabulary items can be learned through the skillful use of imperative by the instructor.

3-And that, a student should not be forced to speak. This is referred to as the "silent period" when students are simply listening. As the students internalize a cognitive map of the target language through understanding what is heard, there will be a point of readiness to speak. The individual will spontaneously begin to produce utterances."[5].

In typically American fashion, that is with little respect for tradition but with a passion for pragmatism, many teachers are combining the two above techniques and taking pedagogy a step beyond to create Accelerated Learning or suggestive-accelerative systems such as the ACT Approach developed by Dr. Lynn Dhority at the University of Massachusetts. The term "suggestive" comes from the reliance on positive suggestion. And "accelerative" because

people learn much more, much faster than is traditionally thought possible. Dr. Dhority trained with Dr. Lozanov and has perfected his method by teaching languages for the army as well as for his college German students.[6].

The methods to be considered today: Suggestopedia, TPR, and Accelerated Learning work because they draw on the latest scientific findings and share several common features:

First of all; they are holistic, that is, they treat the student as a complete individual and they capitalize on both the left and right brain capacities, as well as the body itself, to produce learning. The goal is to get the mind and the body working together. They do this by the use of certain kinds of music, breathing, imagery, and other special exercises--anything that will get the whole self involved with the learning process.

Second; these systems are pleasant and stress-reducing. The students learn how to relax. This idea is almost revolutionary in some classrooms. According to Leslie Hart in The Human Brain and Human Learning[7]: the role of relaxation is critical. When we experience anxiety, we automatically shift down in our brain to the areas where automatic behavior is controlled and little if any learning takes place.

Third; these systems recapture "the joy of learning." A person remembering a positive learning experience from the past is not likely to think of an experience in a traditional classroom setting. However, using the methods discussed today, educators can make classroom learning as pleasant and effective as any method of learning currently known.

And Finally; these systems rely on the use of positive suggestion, a greatly underestimated force in the classroom. By making students feel good about themselves and confident that they can learn, amazing changes can take place. By stressing what the students can do, rather than criticizing and negating their efforts, tremendous progress can be achieved.

The methods mentioned above may seem exotic, impractical, or impossible to achieve in the traditional classroom. However, almost 100 participants from the New Orleans educational system were involved in this method last year. We worked primarily with foreign language teachers who were asked to take 30 hours of a "shock" language, that is a language they did not know; 30 hours of the language they taught; and a 30-hour practicum in theory and methodology. The third part of the report deals with the results of this project.

Notes:

[1]L. Williams, Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education, (Englewood Cliffs, NJ: Prentice-Hall, 1983), p. xi.
[2]T. Buzan, Use Both Sides of Your Brain, (New York: E. P. Dutton, inc., 1983), p. 15.
[3]J. Levy, "Left Brain, Right Brain: Fact and Fiction," Psychology Today (May 1985): 38-44.
[4]J. Bancroft, "Caycedo's Sophrology and Lozanov's Suggestopedia: Mirror Images of System," ERIC Documents (1979): 20 pp. ED 183 033.
[5]J. Asher, Learning Another Language Through Actions: A Complete Teacher's Guidebook, (Los Gatos, CA: Sky Oaks Productions, 1982), p. 4.
[6]L. Dhority, Acquisition Through Creative Teaching: The Artful Use of Suggestion in Foreign Language Instruction, (Sharon, MA: Center for Continuing Development, 1984).
[7]L. Hart, Human Brain and Human Learning, (New York: Longman 1983), p. 109.

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PART III.

THE EVALUATION

Presented by Audrey Cullen

The Evaluation. The experimental project presently under discussion was established through the efforts of colleagues from diverse, yet related, backgrounds. Each had been exposed to the theory and methods of accelerated learning in a practical learning situation. Because of personal experience, each became a disciple of the principles of accelerated learning philosophy, i.e., learning is fun and can be achieved more readily when one is relaxed and through use of the imagination and "play."

Although the accelerated learning movement has been in existence since at least 1975, with the publication of Lazanov's Suggestology and Suggestopedia, only a few studies using large enough n's to get significant results have been done. One such research project was Lynn Dhority's Fort Devens experiment. Because of a fundamental belief in the methodolgy and its effectiveness and because there was little hard data to support the purported positive outcomes of such methods, the present researchers were seeking opportunities to add to the body of available data. The Secretary of Education's Discretionary Fund for Critical Foreign Languages provided the chance to test the hypothesis that accelerated learning methodolgy does facilitate learning and, in fact, does so with an economy of time.

The Louisiana State Legislature in its Spring, 1985, session, passed a resolution to re-establish foreign languages in the schools, beginning at the fourth grade level. This mandate was perfect inasmuch as it dovetailed with the Carnegie report, "A Nation at Risk," which served as a rationale for the Secretary of Education's Discretionary Fund. A proposal was tendered to this agency for the purpose of training a cadre of foreign language teachers which would be required to carry out the State's plan to implement the increase in foreign language teaching. The proposal was designed to offer

some of the most innovative teaching techniques available in a geographical area where there inevitably was going to be a need for qualified teaching personnel.

The format for introducing our teacher-students to accelerated learning methods was to present thrity hours of training in a foreign language with which they were not familiar ("shock" language); present thirty hours of training in a more familiar language; and thirty hours of accelerated learning methodology.

Evaluation of the project revolved around three questions. First, what were some of the characteristics of the sample persons participating in the project's training interventions? Second, what were the pretest-to-posttest attitude changes of the intervention participants? Third, what were the pretest-to-posttest changes in language skills achieved using the training interventions?

Additional data are being collected in respect to application of accelerated learning techniques to the in-tact classroom. Observations are being conducted and videotaped. Evaluation of this phase of the project is beyond the scope of this report.

I. Sample Characteristics

At the outset of the three training phases, participants were asked to respond to a brief questionnaire which investigated their background characteristics. Table 1 summarizes the contents of the questionnaire as well as the results of these surveys.

The tabled results can be employed to paint a general picture of the types of persons who participated in project interventions. The "typical" par-

Table 1
Sample Characterisitics

	Mean	SD
1. Have you studied foreign language? YES	94.7%	--
a. IN HIGH SCHOOL	81.9%	--
b. IN COLLEGE	79.2%	--
2. How many years (if any) have you lived in a foreign country? (47.9%--none)	3.2	6.5
3. Do you speak any foreign language fluently? YES	51.3%	--
a. SPANISH	18.2%	--
b. FRENCH	17.0%	--
c. GERMAN	6.8%	--
4. Are you a Louisiana state certified teacher? YES	30.3%	--
a. ELEMENTARY LEVEL (of YES above)	20.0%	--
b. SECONDARY LEVEL	76.0%	--
c. BOTH LEVELS	4.0%	--
5. Have you ever taugh English as a second language? YES	31.5%	--
6. Do you presently teach? YES	63.5%	--
7. Why are you taking the accelerated learning courses?		
a. FOR LANGUAGE CERTIFICATION	21.1%	--
b. TO CERTIFY IN LANGUAGE AT THE ELEMENTARY LEVEL	10.5%	--

ticipant had formally studied foreign language, had lived in a foreign country, and was fluent in at least one foreign language. With respect to the project's three target languages (Spanish, Frengh, and German), of the participants who were fluent in at least one foreign language, more persons were fluent in Spanish or French than in German.

Most of the participants were teaching but were not certified to teach foreign languages. Of the participants who were teaching, most were teaching at the secondary level. Most of the participants were not taking the courses for certification purposes.

II. Attitude Changes

In most cases only the most intensive educational interventions can realistically be expected to stimulate detectable changes in student cognition. Thus, it is usually very important to evaluate affective changes that may be intermediate project effects and which may predict future cognitive outcomes or behavior changes.

In the present study the semantic differential method was employed to evaluate changes in affect that were presumably caused by the project's interventions. It is difficult to reliably measure such abstract effects, so it is important to employ several semantic differential scales that tap the same or similar dimensions and which can then be aggregated into composite scores. In the present evaluation five scales were employed to tap the "Evaluation" dimension of meaning that has been identified in previous semantic differential research. The five scales were: GOOD-BAD; HAPPY-SAD; UNFAVORABLE-FAVORABLE; NEGATIVE-POSITIVE; and PERFECT-IMPERFECT.

In addition to typically being a function of the number of items employed, reliability is also partially a function of the number of response alternatives per item. Items with more response alternatives generally contribute

relatively more systematic and stable variation to score data than do items with fewer alternatives. However, employing too many response alternatives per item can also cause fatigue or alienation.

In attitude measurement an "unnumbered graphic" scale can be employed to produce maximally reliable scores while also minimizing fatigue and alienation effects. A line is drawn between each adjective in a semantic differential scale and participants are asked to draw a vertical line through the scale at the point that best indicates how they feel about the response alternatives. A ruler is then employed to score each of the scales. In the present study, 15 equal-unit intervals were employed to score the semantic differential scales.

Factor analysis was then employed to confirm that the five scales were each tapping the same attitude dimension and to convert each person's raw scores on a given set of scales into a factor score. The pretest and posttest data were analyzed separately. For the pretest data, the eigenvalues for the first two principal components were, respectively, 4.37 and .31. The corresponding values for the posttest data were 4.22 and .40. These values confirm that the five scales were indeed tapping one general dimension of attitude. Standardized, least-squares factor scores were then computed to aggregate the responses to each set of scales.

In semantic differential studies participants are asked to rate a series of attitude "referents." In the present study the same 18 referents were employed both on the pretest and on the posttest. The referents were selected from recognized instruments used to rate learning environments with respect to fidelity to the accelerated learning model employed in the project.

The referents are noted in Table 2. Table 2 presents the pretest factor score means for the referents. The table also presents 95% confidence intervals about each mean; these intervals can be employed to determine which differences in mean ratings are statistically significant at the alpha=.05 level of confidence. Similar information for posttest data is presented in Table 3.

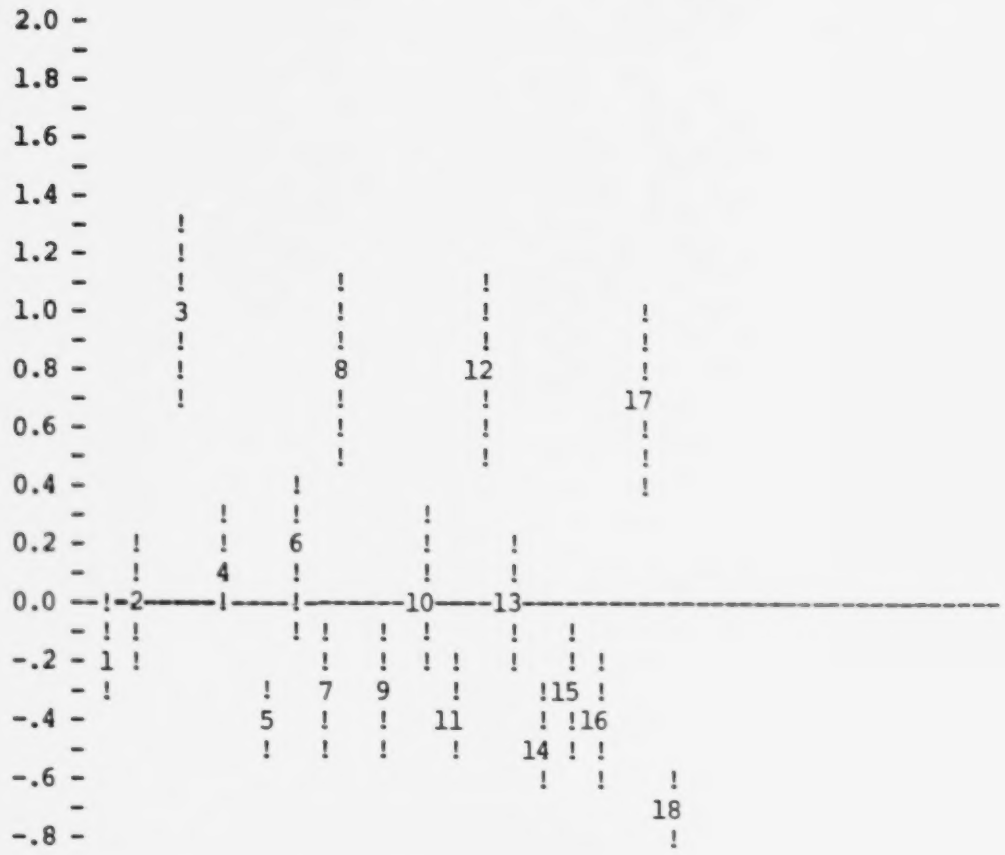
The tabled results compare the relative evaluations of each of the 18 referents. That is, the analysis considers that all the components of the instructional method are important, but asks which of the referents the participants saw as most or least valuable. Concepts whose confidence intervals intercepted the average rating, i.e., zero, were considered relatively neutral referents. In this analysis negative scores were associated with more positive participant feelings, which positive scores were associated with more negative feelings.

The pretest data presented in Table 2 indicate that the participants placed less emphasis on "student reliance on the teacher for learning," "subdued lighting during instruction," "emphasis on calm, even presentation," and "immediate correction of student errors." More emphasis was placed on "teacher respect for and acceptance of all students," "emphasis that learning is fun and easy," "use of imagery as part of instruction," "varied pace and intonation in teacher's delivery," and "emphasis on the visual aspects of instruction."

The posttest data presented in Table 3 indicate that participants generally held the same attitudes after the intervention. The most noteworthy change was that less emphasis was placed on "calm, even presentation of material" on the posttest.

Table 2

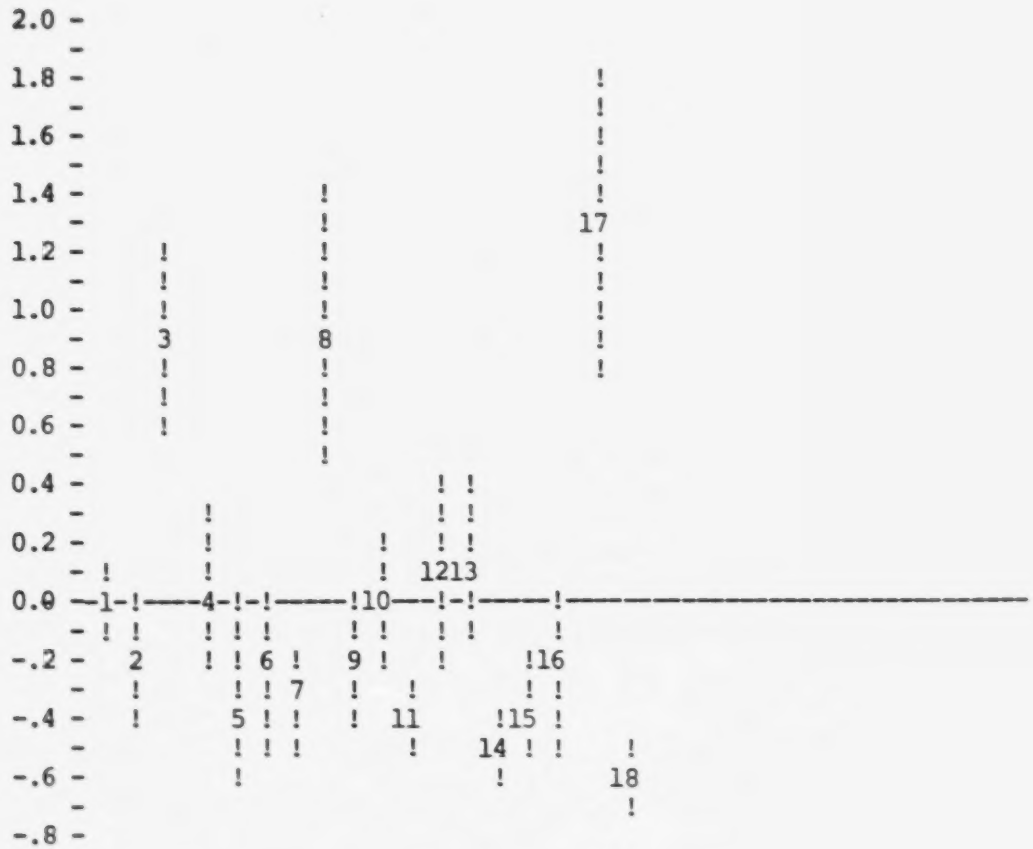
Confidence Intervals About Pretest Referent Means



1=semicircular chair arrangement; 2=teacher belief students can learn easily; 3=student reliance on teacher for learning; 4=preview of new material prior to instruction; 5=varied pace and intonation in teacher's delivery; 6=use of background music as part of instruction; 7=role playing, games, skits as part of instruction; 8=subdued lighting during instruction; 9=physical relaxation prior to instruction; 10=concentrated presentation of material in some protions of instruction; 11=use of imagery as part of instruction; 12=emphasis on calm, even presentation of material; 13=use of self-corrected, non-graded quizzes; 14=emphasis that learning is fun and easy; 15=review of previously learned material; 16=emphasis on visual aspects of instruction; 17=immediate correction of student errors; 18=teacher respect for and acceptance of all students

Table 3

Confidence Intervals About Postest Referenct Means



1=semicircular chair arrangement; 2=teacher belief students can learn easily; 3=student reliance on teacher for learning; 4=preview of new material prior to instruction; 5=varied pace and intonation in teacher's delivery; 6=use of background music as part of instruction; 7=role playing, games, skits as part of instruction; 8=subdued lighting during instruction; 9=physical relaxation prior to instruction; 10=concentrated presentation of material in some protions of instruction; 11=use of imagery as part of instruction; 12=emphasis on calm, even presentation of material; 13=use of self-corrected, non-graded quizzes; 14=emphasis that learning is fun and easy; 15=review of previously learned material; 16=emphasis on visual aspects of instruction; 17=immediate correction of students errors; 18=teacher respect for and acceptance of all students

The more favorably rated concepts may be considered among the most important model components, so the posttest results are favorable with respect to particinant attitudes. For example, it is certainly desirable that the participants felt that "teacher respect for and acceptance of all students is fundamentally important. However, the results also suggest that the intervention participants already had generally favorable attitudes toward important concepts at the beginning of the intervention, so the posttest results may not be attributed to the intervention per se.

III. Cognitive Effects

In order to evaluate possible cognitive gains in language skills areas, the participants completed a standardized language test in the language targeted in each course (Spanish, French, or German). The tests were completed on a pretest and posttest basis and different forms of the test were used pre to post in each language. The tests were the Multiple Assessment Programs and Services (MAPS) of the College Board, published by Educational Testing Service. The tests were selected for their established reliability and because the tests yield subtest scores in both listening and reading.

One language experience course involved the participants in "shock" exposure to a language in which the participants were not fluent; a second language course involved a language with which the participants had some facility. Separate analyses were computed for these two courses. For analytic purposes a language was considered a "shock" language if the student's pretest score was less than a College Board scaled score of 500.

The mean gain College Board score of students in their shock language was 24.6 (SD=41.4). Table 4 presents the mean pretest and posttest scores in the shock language involving number of right subtest answers, number of right subtest answers corrected for guessing, and mean College Board stan-

dard scores. Comparable results for the facility language intervention are presented in Table 5.

The tabled results are uniformly favorable with respect to the cognitive changes produced by the intervention. Somewhat larger and less variable gains were realized in the "shock" language intervention. The result is not entirely surprising because some participants in the "facility" language already tested at the ceiling of the test on the pretest, i.e., these participants were already so fluent that there was relatively little they could learn about the language itself.

Overall, the cognitive gains are especially noteworthy in light of the brief nature of the intervention, i.e., about 30 hours of instruction. Thus, the results are very supportive regarding the intervention's effectiveness.

Table 4

Shock Language Scores

Score	Mean	(SD)	t
Listening Right Answers			
Pretest	3.0	(4.8)	-2.43*
Posttest	8.2	(14.7)	
Listening Corrected			
Pretest	9.1	(5.7)	
Posttest	13.1	(5.1)	-5.25**
Reading Right Answers			
Pretest	1.7	(5.5)	
Posttest	5.5	(6.8)	-4.22**
Reading Corrected			
Pretest	10.5	(7.2)	
Posttest	15.6	(6.5)	-4.60**
Composite Board Score			
Pretest	409.8	(41.5)	
Posttest	427.9	(56.6)	-2.52*

*$p < .05$
**$p < .01$

Table 5

Facility Language Scores

Score	Mean	(SD)	t
Listening Right Answers			
Pretest	12.8	(10.7)	
Posttest	16.9	(13.1)	-3.58**
Listening Corrected			
Pretest	18.0	(11.0)	
Posttest	21.8	(10.9)	-3.13**
Reading Right Answers			
Pretest	17.8	(17.6)	
Posttest	22.0	(19.4)	-3.87**
Reading Corrected			
Pretest	24.6	(16.9)	
Posttest	29.0	(17.4)	-4.83**
Composite Board Scores			
Pretest	534.0	(134.6)	
Posttest	558.6	(143.9)	-2.97**

*$p < .05$
**$p < .01$